NEUROSCIENCE

International journal under the editorial direction of IBRO

Volume 94, 1999

TITLE SECTION,
LIST OF CONTENTS,
AUTHOR AND KEY WORD INDEX

TN
3
HMLTN
QP 351 .N43
Neuroscience
v 94 Index 12/31/1999
Received: 12-17-99
UNIVERSITY OF HAWAII
AT MANOA -- LIBRARY

PERGAMON

IBRO

NEUROSCIENCE

Chief Editor

A. D. SMITH: *Department of Pharmacology, University of Oxford, Mansfield Road, Oxford OX1 3QT, U.K.*

Associate Editor (designate)

D. G. AMARAL: *Department of Psychiatry and Center for Neuroscience, University of California, Davis, California 95616, U.S.A.*

Editorial Board

T. ARENDT (*Leipzig*)
A. BJORKLUND (*Lund*)
T. V. P. BLISS (*London*)
J. P. BOLAM (*Oxford*)
P. BRUNDIN (*Lund*)
G. BUZSÁKI (*Newark, NJ*)
D. W. CHOI (*St Louis, MO*)
J. T. COYLE (*Belmont, MA*)
A. C. CUELLO (*Montreal*)
L. DELLA CORTE (*Firenze*)
F. E. DUDEK (*Fort Collins, CO*)
A. W. DUGGAN (*Sydney*)
D. EDGAR (*Liverpool*)
M. M. ESIRI (*Oxford*)
R. L. M. FAULL (*Auckland*)
T. F. FREUND (*Budapest*)
F. H. GAGE (*La Jolla, CA*)
J. GARTHWAITE (*London*)
C. R. GERFEN (*Bethesda, MD*)
J. GLOWINSKI (*Paris*)
J. A. GRAY (*London*)
A. M. GRAYBIEL (*Cambridge, MA*)
R. W. GUILLERY (*Madison, WI*)
M. HAMON (*Paris*)
P. J. HARRISON (*Oxford*)
F. F. HEFTI (*Harlow*)
Z. HENDERSON (*Leeds*)
J. HERBERT (*Cambridge*)
M. HERKENHAM (*Bethesda, MD*)
T. HÖKFELT (*Stockholm*)
P. HOLZER (*Graz*)
S. P. HUNT (*London*)
B. E. JONES (*Montreal*)
E. G. JONES (*Davis, CA*)
G. JU (*Xi'an*)
B. I. KHODOROV (*Moscow*)
T. KOSAKA (*Fukuoka*)
G. W. KREUTZBERG (*Planegg-Martinsried*)
O. A. KRISHTAL (*Kiev*)
S. N. LAWSON (*Bristol*)
J. D. LEVINE (*San Francisco, CA*)
C. A. MARSDEN (*Nottingham*)
A. I. MATUS (*Basle*)
É. MUGNAINI (*Chicago, IL*)
D. G. NICHOLLS (*Dundee*)
T. ONO (*Toyanda*)
O. P. OTTERSEN (*Oslo*)
V. H. PERRY (*Southampton*)
J. M. POLAK (*London*)
S. J. REDMAN (*Canberra*)
H. A. ROBERTSON (*Halifax, N.S.*)
R. A. RUSH (*Adelaide*)
T. E. SALT (*London*)
R. SCHMIDT-KASTNER (*Miami, FL*)
S. SNYDER (*Baltimore, MD*)
M. V. SOFRONIEW (*Cambridge*)
P. SOMOGYI (*Oxford*)
C. SOTELO (*Paris*)
K. STARKE (*Freiburg*)
M. S. STARR (*London*)
M. STERIADE (*Quebec*)
D. T. THEODOSIS (*Bordeaux*)
A. M. THOMPSON (*London*)
K. UNSICKER (*Heidleberg*)
S. R. VINCENT (*Vancouver*)
L. VYKLICKY (*Prague*)
X. S. T. WAN (*Beijing*)
W. WISDEN (*Cambridge*)
Y. YAROM (*Jerusalem*)
D. S. ZAHM (*St Louis, MO*)
R. E. ZIGMOND (*Cleveland, OH*)
H. ZIMMERMANN (*Frankfurt*)

Founding Editors

P. G. KOSTYUK, R. LLINÁS, A. D. SMITH

Editorial Assistant: J. J. HANLEY (*Oxford*)

Published 28 per annum, semi-monthly with additional issues in March, June, September and December (seven volumes, 1999)

Copyright © 1999 IBRO

LIST OF CONTENTS

VOLUME 94 NUMBER 1

LETTERS TO NEUROSCIENCE

N. Vibert, A. Bantikyan, A. Babalian, M. Serafin, M. Mühlethaler and **P.-P. Vidal**	Post-lesional plasticity in the central nervous system of the guinea-pig: a ''top-down'' adaptation process?	1
M. Michaelis, K.-H. Blenk, C. Vogel and **W. Jänig**	Distribution of sensory properties among axotomized cutaneous C-fibres in adult rats	7
J. Yamuy, S. J. Fung, M. Xi, F. R. Morales and **M. H. Chase**	Hypoglossal motoneurons are postsynaptically inhibited during carbachol-induced rapid eye movement sleep	11
G. S. Kaminski Schierle, O. Hansson and **P. Brundin**	Flunarizine improves the survival of grafted dopaminergic neurons	17

RESEARCH PAPERS

D. J. Holt, M. M. Herman, T. M. Hyde, J. E. Kleinman, C. M. Sinton, D. C. German, L. B. Hersh, A. M. Graybiel and **C. B. Saper**	Evidence for a deficit in cholinergic interneurons in the striatum in schizophrenia	21
D. C. German, K. F. Manaye, D. Wu, L. B. Hersh and **R. M. Zweig**	Mesopontine cholinergic and non-cholinergic neurons in schizophrenia	33
L. M. Broersen, J. Feldon and **I. Weiner**	Dissociative effects of apomorphine infusions into the medial prefrontal cortex of rats on latent inhibition, prepulse inhibition and amphetamine-induced locomotion	39
L. M. Broersen and **H. B. M. Uylings**	Visual attention task performance in Wistar and Lister Hooded rats: response inhibition deficits after medial prefrontal cortex lesions	47
M. E. Bardgett and **J. D. Henry**	Locomotor activity and accumbens Fos expression driven by ventral hippocampal stimulation require D_1 and D_2 receptors	59
D. Manahan-Vaughan, I. Herrero, K. G. Reymann and **J. Sánchez-Prieto**	Presynaptic group 1 metabotropic glutamate receptors may contribute to the expression of long-term potentiation in the hippocampal CA1 region	71
S. J. Won, H. W. Ko, E. Y. Kim, E. C. Park, K. Huh, N. P. Jung, I. Choi, Y. K. Oh, H. C. Shin and **B. J. Gwag**	Nuclear factor kappa B-mediated kainate neurotoxicity in the rat and hamster hippocampus	83
P. Zimmermann, C. Privou and **J. P. Huston**	Differential sensitivity of the caudal and rostral nucleus accumbens to the rewarding effects of a H1-histaminergic receptor blocker as measured with place-preference and self-stimulation behavior	93
V. Petegnief, J. Saura, D. Dewar, D. J. Cummins, M. Dragunow and **N. Mahy**	Long-term effects of α-amino-3-hydroxy-5-methyl-4-isoxazole propionate and 6-nitro-7-sulphamoylbenzo(f)quinoxaline-2,3-dione in the rat basal ganglia: calcification, changes in glutamate receptors and glial reactions	105
C. Li, P. Chen and **M. S. Smith**	Neural populations in the rat forebrain and brainstem activated by the suckling stimulus as demonstrated by cFos expression	117
O. Matsuzaki, R. E. Bakin, X. Cai, B. P. M. Menco and **G. V. Ronnett**	Localization of the olfactory cyclic nucleotide-gated channel subunit 1 in normal, embryonic and regenerating olfactory epithelium	131
L. Yan, S. Takekida, Y. Shigeyoshi and **H. Okamura**	*Per*1 and *Per*2 gene expression in the rat suprachiasmatic nucleus: circadian profile and the compartment-specific response to light	141
F. Marsais and **A. Calas**	Ectopic expression of non-catecholaminergic tyrosine hydroxylase in rat hypothalamic magnocellular neurons	151
F. M. Semenenko and **B. M. Lumb**	Excitatory projections from the anterior hypothalamus to periaqueductal gray neurons that project to the medulla: a functional anatomical study	163
Y. Xu, T. A. Day and **K. M. Buller**	The central amygdala modulates hypothalamic–pituitary–adrenal axis responses to systemic interleukin-1β administration	175
W. Paradee, H. E. Melikian, D. L. Rasmussen, A. Kenneson, P. J. Conn and **S. T. Warren**	Fragile X mouse: strain effects of knockout phenotype and evidence suggesting deficient amygdala function	185
F. Rothe, P. L. Huang and **G. Wolf**	Ultrastructural localization of neuronal nitric oxide synthase in the laterodorsal tegmental nucleus of wild-type and knockout mice	193

9 137HI XL 845 4/00 31249-200 MILE

H. Mizoguchi, M. Narita, D. E. Oji, C. Suganuma, H. Nagase, I. Sora, G. R. Uhl, E. Y. Cheng and **L. F. Tseng**	The μ-opioid receptor gene dose-dependent reductions in G-protein activation in the pons/medulla and antinociception induced by endomorphins in μ-opioid receptor knockout mice	203
M. Neppi-Modona, F. Rossi and **P. Strata**	Phenotype changes of inferior olive neurons following collateral reinnervation	209
A. Dalal, M. Tata, G. Allègre, F. Gekiere, N. Bons and **D. Albe-Fessard**	Spontaneous activity of rat dorsal horn cells in spinal segments of sciatic projection following transection of sciatic nerve or of corresponding dorsal roots	217
N. Lukáčová, D. Čížková, M. Maršala, P. Jalč and **J. Maršala**	Segmental and laminar distributions of NADPH-diaphorase-expressing and neuronal nitric oxide synthase-immunoreactive neurons versus radioassay detection of catalytic nitric oxide synthase activity in the rabbit spinal cord	229
J. L. Venero, M. L. Vizuete, A. A. Ilundáin, A. Machado, M. Echevarria and **J. Cano**	Detailed localization of aquaporin-4 messenger RNA in the CNS: preferential expression in periventricular organs	239
L. Zhang, W. Ma, J. L. Barker and **D. R. Rubinow**	Sex differences in expression of serotonin receptors (subtypes 1A and 2A) in rat brain: a possible role of testosterone	251
M. V. Samoilova, S. L. Buldakova, V. S. Vorobjev, I. N. Sharonova and **L. G. Magazanik**	The open channel blocking drug, IEM-1460, reveals functionally distinct α-amino-3-hydroxy-5-methyl-4-isoxazolepropionate receptors in rat brain neurons	261
E. Knyihár-Csillik, E. Okuno and **L. Vécsei**	Effects of *in vivo* sodium azide administration on the immunohistochemical localization of kynurenine aminotransferase in the rat brain	269
T. M. Pham, B. Ickes, D. Albeck, S. Söderström, A.-Ch. Granholm and **A. H. Mohammed**	Changes in brain nerve growth factor levels and nerve growth factor receptors in rats exposed to environmental enrichment for one year	279
C. Strazielle, R. Lalonde, C. Hébert and **T. A. Reader**	Regional brain distribution of noradrenaline uptake sites, and of α_1-, α_2- and β-adrenergic receptors in *PCD* mutant mice: a quantitative autoradiographic study	287
B. M. McGahon, D. S. D. Martin, D. F. Horrobin and **M. A. Lynch**	Age-related changes in synaptic function: analysis of the effect of dietary supplementation with ω-3 fatty acids	305
L. Umans, L. Serneels, K. Lorent, I. Dewachter, I. Tesseur, D. Moechars and **F. Van Leuven**	Lipoprotein receptor-related protein in brain and in cultured neurons of mice deficient in receptor-associated protein and transgenic for apolipoprotein E4 or amyloid precursor protein	315
L. Košťál, P. Výboh, C. J. Savory, M. Juráni, L. Kubíková and **P. Blažíček**	Influence of food restriction on dopamine receptor densities, catecholamine concentrations and dopamine turnover in chicken brain	323
E. Bugnard, P. Sors, E. Roulet, A. Bloc, F. Loctin and **Y. Dunant**	Morphological changes related to reconstituted acetylcholine release in a release-deficient cell line	329

VOLUME 94 NUMBER 2

RESEARCH PAPERS

J. H. McAuley, J. C. Rothwell and **C. D. Marsden**	Human anticipatory eye movements may reflect rhythmic central nervous activity	339
Z.-H. Zhang, P. M. Dougherty and **S. M. Oppenheimer**	Monkey insular cortex neurons respond to baroreceptive and somatosensory convergent inputs	351
K. Tanaka, S. Nogawa, E. Nagata, S. Suzuki, T. Dembo, A. Kosakai and **Y. Fukuuchi**	Inhibition of cyclic AMP-dependent protein kinase in the acute phase of focal cerebral ischemia in the rat	361
M. Eijkenboom, I. Gerlach and **F. J. van der Staay**	The effects of subdural haematoma on spatial learning in the rat	373
P. J. Yao, R. Morsch, L. M. Callahan and **P. D. Coleman**	Changes in synaptic expression of clathrin assembly protein AP180 in Alzheimer's disease analysed by immunohistochemistry	389
A. Popa-Wagner, B. Fischer, D. Platt, R. Neubig, H. Schmoll and **C. Kessler**	Anomalous expression of microtubule-associated protein 1B in the hippocampus and cortex of aged rats treated with pentylenetetrazole	395
A. N. Moore, A. W. Kampfl, X. Zhao, R. L. Hayes and **P. K. Dash**	Sphingosine-1-phosphate induces apoptosis of cultured hippocampal neurons that requires protein phosphatases and activator protein-1 complexes	405
J. Madl and **S. M. Royer**	Glutamate in synaptic terminals is reduced by lack of glucose but not hypoxia in rat hippocampal slices	417
T. E. Nelson, C. L. Ur and **D. L. Gruol**	Chronic intermittent ethanol exposure alters CA1 synaptic transmission in rat hippocampal slices	431

F. A. Chaillan, B. Truchet, F. S. Roman and **B. Soumireu-Mourat**	Early polysynaptic potentiation recorded in the dentate gyrus during an associative learning task	443
V. F. Kitchigina, T. A. Kudina, E. V. Kutyreva and **O. S. Vinogradova**	Neuronal activity of the septal pacemaker of theta rhythm under the influence of stimulation and blockade of the median raphe nucleus in the awake rabbit	453
M. Jeub, A. Lie, I. Blümcke, C. E. Elger and **H. Beck**	Loss of dynorphin-mediated inhibition of voltage-dependent Ca^{2+} currents in hippocampal granule cells isolated from epilepsy patients is associated with mossy fiber sprouting	465
J. Tuunanen, K. Lukasiuk, T. Halonen and **A. Pitkänen**	Status epilepticus-induced neuronal damage in the rat amygdaloid complex: distribution, time-course and mechanisms	473
G. Poeggel, E. Lange, C. Hase, M. Metzger, N. Gulyaeva and **K. Braun**	Maternal separation and early social deprivation in *octodon degus*: quantitative changes of NADPH-diaphorase-reactive neurons in the prefrontal cortex and nucleus accumbens	497
A. E. Pollack and **T. M. Yates**	Prior D1 dopamine receptor stimulation is required to prime D2-mediated striatal Fos expression in 6-hydroxydopamine-lesioned rats	505
M. A. Cenci, A. Tranberg, M. Andersson and **A. Hilbertson**	Changes in the regional and compartmental distribution of FosB- and JunB-like immunoreactivity induced in the dopamine-denervated rat striatum by acute or chronic L-DOPA treatment	515
S. A. Oakman, P. L. Faris, C. Cozzari and **B. K. Hartman**	Characterization of the extent of pontomesencephalic cholinergic neurons' projections to the thalamus: comparison with projections to midbrain dopaminergic groups	529
S. Grassi, E. Francescangeli, G. Goracci and **V. E. Pettorossi**	Platelet-activating factor and group I metabotropic glutamate receptors interact for full development and maintenance of long-term potentiation in the rat medial vestibular nuclei	549
E. C. Toescu	Activity of voltage-operated calcium channels in rat cerebellar granule neurons and neuronal survival	561
A. Boldyrev, R. Song, D. Lawrence and **D. O. Carpenter**	Carnosine protects against excitotoxic cell death independently of effects on reactive oxygen species	571
R. M. Harper, C. A. Richard and **D. M. Rector**	Physiological and ventral medullary surface activity during hypovolemia	579
J.-P. Syriatowicz, D. Hu, J. S. Walker and **D. J. Tracey**	Hyperalgesia due to nerve injury: role of prostaglandins	587
J. Schadrack, F. L. Neto, A. Ableitner, J. M. Castro-Lopes, F. Willoch, P. Bartenstein, W. Zieglgänsberger and **T. R. Tölle**	Metabolic activity changes in the rat spinal cord during adjuvant monoarthritis	595
F. L. Neto, J. Schadrack, A. Ableitner, J. M. Castro-Lopes, P. Bartenstein, W. Zieglgänsberger and **T. R. Tölle**	Supraspinal metabolic activity changes in the rat during adjuvant monoarthritis	607
K. S. Cho, P. M. Chan, K.-F. So, H. K. Yip and **S. K. Chung**	Ciliary neurotrophic factor promotes the regrowth capacity but not the survival of intraorbitally axotomized retinal ganglion cells in adult hamsters	623
A. J. Eisch, C.-H. Lammers, S. Yajima, M. M. Mouradian and **E. J. Nestler**	*In vivo* regulation of glial cell line-derived neurotrophic factor-inducible transcription factor by kainic acid	629
W. J. Rushlow, N. Rajakumar, B. A. Flumerfelt and **C. C. G. Naus**	Characterization of CArG-binding protein A initially identified by differential display	637
L. J. Sim-Selley, J. B. Daunais, L. J. Porrino and **S. R. Childers**	Mu and kappa$_1$ opioid-stimulated [^{35}S]guanylyl-5′-o-(γ-thio)-triphosphate binding in cynomolgus monkey brain	651
J. Yip and **L. A. Chahl**	Distribution of Fos-like immunoreactivity in guinea-pig brain following administration of the neurokinin-1 receptor agonist, [Sar^9,Met(O$_2$)^{11}]substance P	663

VOLUME 94 NUMBER 3

RESEARCH PAPERS

J. Johnson, V. Wu, H. Wong, J. H. Walsh and **N. C. Brecha**	Somatostatin receptor subtype 2A expression in the rat retina	675
W. Sihver, P.-G. Gillberg, A.-L. Svensson and **A. Nordberg**	Autoradiographic comparison of [^{3}H](−)nicotine, [^{3}H]cytisine and [^{3}H]epibatidine binding in relation to vesicular acetylcholine transport sites in the temporal cortex in Alzheimer's disease	685

H. Sato, Y. Hata and **T. Tsumoto**	Effects of blocking non-*N*-methyl-D-aspartate receptors on visual responses of neurons in the cat visual cortex	697
M. Cador, Y. Bjijou, S. Cailhol and **L. Stinus**	D-Amphetamine-induced behavioral sensitization: implication of a glutamatergic medial prefrontal cortex–ventral tegmental area innervation	705
A. Savonenko, R. K. Filipkowski, T. Werka, K. Zielinski and **L. Kaczmarek**	Defensive conditioning-related functional heterogeneity among nuclei of the rat amygdala revealed by c-Fos mapping	723
M. Penttonen, N. Nurminen, R. Miettinen, J. Sirviö, D. A. Henze, J. Csicsvári and **G. Buzsáki**	Ultra-slow oscillation (0.025 Hz) triggers hippocampal afterdischarges in Wistar rats	735
O. S. Vinogradova, V. F. Kitchigina, T. A. Kudina and **K. I. Zenchenko**	Spontaneous activity and sensory responses of hippocampal neurons during persistent theta-rhythm evoked by median raphe nucleus blockade in rabbit	745
M. J. Routbort, S. B. Bausch and **J. O. McNamara**	Seizures, cell death, and mossy fiber sprouting in kainic acid-treated organotypic hippocampal cultures	755
A. Drakew, M. Frotscher and **B. Heimrich**	Blockade of neuronal activity alters spine maturation of dentate granule cells but not their dendritic arborization	767
R. T. Matthews	Neurotensin depolarizes cholinergic and a subset of non-cholinergic septal/diagonal band neurons by stimulating neurotensin-1 receptors	775
J. C. Easaw, B. S. Jassar, K. H. Harris and **J. H. Jhamandas**	Zinc modulation of ionic currents in the horizontal limb of the diagonal band of Broca	785
D. Jezova, T. Ochedalski, M. Glickman, A. Kiss and **G. Aguilera**	Central corticotropin-releasing hormone receptors modulate hypothalamic–pituitary–adrenocortical and sympathoadrenal activity during stress	797
B. B. Nankova, A. W. Tank and **E. L. Sabban**	Transient or sustained transcriptional activation of the genes encoding rat adrenomedullary catecholamine biosynthetic enzymes by different durations of immobilization stress	803
V. Prevot, D. Croix, S. Bouret, S. Dutoit, G. Tramu, G. B. Stefano and **J. C. Beauvillain**	Definitive evidence for the existence of morphological plasticity in the external zone of the median eminence during the rat estrous cycle: implication of neuro-glio-endothelial interactions in gonadotropin-releasing hormone release	809
J.-H. Tao-Cheng and **F. C. Zhou**	Differential polarization of serotonin transporters in axons versus soma–dendrites: an immunogold electron microscopy study	821
Y. S. Chan, D. K. Y. Shum and **C. H. Lai**	Neuronal response sensitivity to bidirectional off-vertical axis rotations: a dimension of imbalance in the bilateral vestibular nuclei of cats after unilateral labyrinthectomy	831
V. V. Fanardjian, L. R. Manvelyan, V. L. Zakarian, V. I. Pogossian and **A. M. Nasoyan**	Electrophysiological properties of the somatotopic organization of the vestibulospinal system in the frog	845
D. Cohen and **Y. Yarom**	Optical measurements of synchronized activity in isolated mammalian cerebellum	859
V. Ralevic, T. Thomas, G. Burnstock and **K. M. Spyer**	Characterization of P2 receptors modulating neural activity in rat rostral ventrolateral medulla	867
C. Magariños-Ascone, Á. Núñez and **J. M. Delgado-García**	Different discharge properties of rat facial nucleus motoneurons	879
N. V. Voitenko, E. P. Kostyuk, I. A. Kruglikov and **P. G. Kostyuk**	Changes in calcium signalling in dorsal horn neurons in rats with streptozotocin-induced diabetes	887
A. B. Smith and **T. C. Cunnane**	Calcium channels controlling acetylcholine release in the guinea-pig isolated anterior pelvic ganglion: an electropharmacological study	891
G. F. Altememi and **K. A. Alkadhi**	Nitric oxide is required for the maintenance but not initiation of ganglionic long-term potentiation	897
H. Sakamoto, R. C. Spike and **A. J. Todd**	Neurons in laminae III and IV of the rat spinal cord with the neurokinin-1 receptor receive few contacts from unmyelinated primary afferents which do not contain substance P	903
K. He, H. Nukada, P. D. McMorran and **M. P. Murphy**	Protein carbonyl formation and tyrosine nitration as markers of oxidative damage during ischaemia-reperfusion injury to rat sciatic nerve	909
M. M. Behrens, U. Strasser, J.-Y. Koh, B. J. Gwag and **D. W. Choi**	Prevention of neuronal apoptosis by phorbol ester-induced activation of protein kinase C: blockade of p38 mitogen-activated protein kinase	917
J. D. Houle and **J.-H. Ye**	Survival of chronically-injured neurons can be prolonged by treatment with neurotrophic factors	929
F. Fornai, M. Saviozzi, S. Piaggi, M. Gesi, G. U. Corsini, G. Malvaldi and **A. F. Casini**	Localization of a glutathione-dependent dehydroascorbate reductase within the central nervous system of the rat	937

P. Saransaari and **S. S. Oja** — Characteristics of ischemia-induced taurine release in the developing mouse hippocampus — 949

S.-H. Han and **J. I. Morgan** — Comparison of *munc-18* and *cdk5* expression in the nervous system during mouse embryogenesis — 955

I.-T. Huang, W.-M. Lin, C.-T. Shun and **S.-T. Hsieh** — Influence of cutaneous nerves on keratinocyte proliferation and epidermal thickness in mice — 965

W. Gottschalk, D. S. Kim, H. Chin and **E. F. Stanley** — High-voltage-activated calcium channel messenger RNA expression in the 140-3 neuroblastoma–glioma cell line — 975

M. Marxen, W. Volknandt and **H. Zimmermann** — Endocytic vacuoles formed following a short pulse of K^+-stimulation contain a plethora of presynaptic membrane proteins — 985

P. T. Harrison, R. G. Dalziel, N. A. Ditchfield and **J. P. Quinn** — Neuronal-specific and nerve growth factor-inducible expression directed by the preprotachykinin-A promoter delivered by an adeno-associated virus vector — 997

VOLUME 94 NUMBER 4

RESEARCH PAPERS

D. W. Gross and **J. Gotman** — Correlation of high-frequency oscillations with the sleep–wake cycle and cognitive activity in humans — 1005

H. Gurden, J.-P. Tassin and **T. M. Jay** — Integrity of the mesocortical dopaminergic system is necessary for complete expression of *in vivo* hippocampal–prefrontal cortex long-term potentiation — 1019

S. Hart, M. Sarter and **G. G. Berntson** — Cholinergic inputs to the rat medial prefrontal cortex mediate potentiation of the cardiovascular defensive response by the anxiogenic benzodiazepine receptor partial inverse agonist FG 7142 — 1029

R. Köhling, M. Qü, K. Zilles and **E.-J. Speckmann** — Current-source-density profiles associated with sharp waves in human epileptic neocortical tissue — 1039

K. Zilles, M. S. Qü, R. Köhling and **E.-J. Speckmann** — Ionotropic glutamate and GABA receptors in human epileptic neocortical tissue: quantitative *in vitro* receptor autoradiography — 1051

A. Bouron and **H. Reuter** — The D1 dopamine receptor agonist SKF-38393 stimulates the release of glutamate in the hippocampus — 1063

J. L. Venero, M. Revuelta, A. Machado and **J. Cano** — Delayed apoptotic pyramidal cell death in CA4 and CA1 hippocampal subfields after a single intraseptal injection of kainate — 1071

G. M. Bernstein, A. Mendonça, J. Wadia, W. MacIntyre Burnham and **O. T. Jones** — Kindling induces a long-term enhancement in the density of N-type calcium channels in the rat hippocampus — 1083

S. J. Shammah-Lagnado, G. F. Alheid and **L. Heimer** — Afferent connections of the interstitial nucleus of the posterior limb of the anterior commissure and adjacent amygdalostriatal transition area in the rat — 1097

M. Śmiałowska, M. Bajkowska, B. Przewłocka, M. Maj, J. Turchan and **R. Przewłocki** — Effect of 6-hydroxydopamine on neuropeptide Y and corticotropin-releasing factor expression in rat amygdala — 1125

S. M. Gomez-Urquijo, T. Hökfelt, R. Ubink, G. Lubec and **M. Herrera-Marschitz** — Neurocircuitries of the basal ganglia studied in organotypic cultures: focus on tyrosine hydroxylase, nitric oxide synthase and neuropeptide immunocytochemistry — 1133

Y. Wang, Z.-H. Qin, M. Nakai, R.-W. Chen, D.-M. Chuang and **T. N. Chase** — Co-stimulation of cyclic-AMP-linked metabotropic glutamate receptors in rat striatum attenuates excitotoxin-induced nuclear factor-κB activation and apoptosis — 1153

B. M. R. Kramer, C. E. E. M. Van der Zee and **T. Hagg** — p75 nerve growth factor receptor is important for retrograde transport of neurotrophins in adult cholinergic basal forebrain neurons — 1163

G. Grabauskas and **R. M. Bradley** — Potentiation of GABAergic synaptic transmission in the rostral nucleus of the solitary tract — 1173

M. K. Hahn and **M. J. Bannon** — Stress-induced c-fos expression in the rat locus coeruleus is dependent on neurokinin 1 receptor activation — 1183

D. Nouel, P. Sarret, J.-P. Vincent, J. Mazella and **A. Beaudet** — Pharmacological, molecular and functional characterization of glial neurotensin receptors — 1189

S. Bertrand and **J.-R. Cazalets** — Regulation by glycine, Mg^{2+} and polyamines of the *N*-methyl-D-aspartate-induced locomotion in the neonatal rat spinal cord *in vitro* — 1199

Y. Saruhashi, W. Young, M. Sugimori, J. Abrahams and **J. Sakuma** — GABA increases refractoriness of adult rat dorsal column axons — 1207

K. B. Fink, L. J. Andrews, W. E. Butler, V. O. Ona, M. Li, M. Bogdanov, M. Endres, S. Q. Khan, S. Namura, P. E. Stieg, M. F. Beal, M. A. Moskowitz, J. Yuan and **R. M. Friedlander**	Reduction of post-traumatic brain injury and free radical production by inhibition of the caspase-1 cascade	1213
G. Garthwaite, G. Brown, A. M. Batchelor, D. A. Goodwin and **J. Garthwaite**	Mechanisms of ischaemic damage to central white matter axons: a quantitative histological analysis using rat optic nerve	1219
Y. Xia and **G. G. Haddad**	Effect of prolonged O_2 deprivation on Na^+ channels: differential regulation in adult versus fetal rat brain	1231
E. A. Stone, Y. Zhang, H. Rosengarten, J. Yeretsian and **D. Quartermain**	Brain alpha 1-adrenergic neurotransmission is necessary for behavioral activation to environmental change in mice	1245
J. D. Glass and **L. Chen**	Serotonergic modulation of astrocytic activity in the hamster suprachiasmatic nucleus	1253
C. R. Dermon, A. Stamatakis, O. Tlemçani and **J. Balthazart**	Performance of appetitive or consummatory components of male sexual behavior is mediated by different brain areas: a 2-deoxyglucose autoradiographic study	1261
R. Janz and **T. C. Südhof**	SV2C is a synaptic vesicle protein with an unusually restricted localization: anatomy of a synaptic vesicle protein family	1279
R. Pal, M. J. Eaton, S. Islam, M. Hake-Frendscho, K. N. Kumar and **E. K. Michaelis**	Immunocytochemical and *in situ* hybridization studies of the expression and distribution of three subunits of a complex with *N*-methyl-D-aspartate receptor-like properties	1291
J. A. Stamp and **J. Herbert**	Multiple immediate-early gene expression during physiological and endocrine adaptation to repeated stress	1313
M. Belloni, D. Uberti, C. Rizzini, G. Ferrari-Toninelli, P. Rizzonelli, J. Jiricny, P. Spano and **M. Memo**	Distribution and kainate-mediated induction of the DNA mismatch repair protein MSH2 in rat brain	1323
J. Mills and **P. B. Reiner**	Mitogen-activated protein kinase is involved in *N*-methyl-D-aspartate receptor regulation of amyloid precursor protein cleavage	1333
A. D. Nozdrachev, G. N. Akoev, L. V. Filippova, N. O. Sherman, M. I. Lioudyno and **F. N. Makarov**	Changes in afferent impulse activity of small intestine mesenteric nerves in response to antigen challenge	1339

AUTHOR INDEX

Ableitner, A. 595, 607
Abrahams, J. 1207
Aguilera, G. 797
Akoev, G. N. 1339
Albe-Fessard, D. 217
Albeck, D. 279
Alheid, G. F. 1097
Alkadhi, K. A. 897
Allègre, G. 217
Altememi, G. F. 897
Andersson, M. 515
Andrews, L. J. 1213

Babalian, A. 1
Bajkowska, M. 1125
Bakin, R. E. 131
Balthazart, J. 1261
Bannon, M. J. 1183
Bantikyan, A. 1
Bardgett, M. E. 59
Barker, J. L. 251
Bartenstein, P. 595, 607
Batchelor, A. M. 1219
Bausch, S. B. 755
Beal, M. F. 1213
Beaudet, A. 1189
Beauvillain, J. C. 809
Beck, H. 465
Behrens, M. M. 917
Belloni, M. 1323
Bernstein, G. M. 1083
Berntson, G. G. 1029
Bertrand, S. 1199
Bjijou, Y. 705
Blažíček, P. 323
Blenk, K.-H. 7
Bloc, A. 329
Blümcke, I. 465
Bogdanov, M. 1213
Boldyrev, A. 571
Bons, N. 217
Bouret, S. 809
Bouron, A. 1063
Bradley, R. M. 1173
Braun, K. 497
Brecha, N. C. 675
Broersen, L. M. 39, 47
Brown, G. 1219
Brundin, P. 17
Bugnard, E. 329
Buldakova, S. L. 261
Buller, K. M. 175
Burnstock, G. 867
Butler, W. E. 1213
Buzsáki, G. 735

Cador, M. 705
Cai, X. 131
Cailhol, S. 705
Calas, A. 151
Callahan, L. M. 389
Cano, J. 239, 1071
Carpenter, D. O. 571
Casini, A. F. 937
Castro-Lopes, J. M. 595, 607
Cazalets, J.-R. 1199
Cenci, M. A. 515
Chahl, L. A. 663
Chaillan, F. A. 443
Chan, P. M. 623
Chan, Y. S. 831
Chase, M. H. 11
Chase, T. N. 1153
Chen, L. 1253
Chen, P. 117
Chen, R.-W. 1153
Cheng, E. Y. 203
Childers, S. R. 651
Chin, H. 975
Cho, K. S. 623
Choi, D. W. 917
Choi, I. 83
Chuang, D.-M. 1153
Chung, S. K. 623
Čížková, D. 229
Cohen, D. 859
Coleman, P. D. 389
Conn, P. J. 185
Corsini, G. U. 937
Cozzari, C. 529
Croix, D. 809
Csicsvári, J. 735
Cummins, D. J. 105
Cunnane, T. C. 891

Dalal, A. 217
Dalziel, R. G. 997
Dash, P. K. 405
Daunais, J. B. 651
Day, T. A. 175
Delgado-García, J. M. 879
Dembo, T. 361
Dermon, C. R. 1261
Dewachter, I. 315
Dewar, D. 105
Ditchfield, N. A. 997
Dougherty, P. M. 351
Dragunow, M. 105
Drakew, A. 767
Dunant, Y. 329
Dutoit, S. 809

Easaw, J. C. 785
Eaton, M. J. 1291
Echevarria, M. 239
Eijkenboom, M. 373
Eisch, A. J. 629
Elger, C. E. 465
Endres, M. 1213

Fanardjian, V. V. 845
Faris, P. L. 529
Feldon, J. 39
Ferrari-Toninelli, G. 1323
Filipkowski, R. K. 723
Filippova, L. V. 1339
Fink, K. B. 1213
Fischer, B. 395
Flumerfelt, B. A. 637
Fornai, F. 937
Francescangeli, E. 549
Friedlander, R. M. 1213
Frotscher, M. 767
Fukuuchi, Y. 361
Fung, S. J. 11

Garthwaite, G. 1219
Garthwaite, J. 1219
Gekiere, F. 217
Gerlach, I. 373
German, D. C. 21, 33
Gesi, M. 937
Gillberg, P.-G. 685
Glass, J. D. 1253
Glickman, M. 797
Gomez-Urquijo, S. M. 1133
Goodwin, D. A. 1219
Goracci, G. 549
Gotman, J. 1005
Gottschalk, W. 975
Grabauskas, G. 1173
Granholm, A.-Ch. 279
Grassi, S. 549
Graybiel, A. M. 21
Gross, D. W. 1005
Gruol, D. L. 431
Gulyaeva, N. 497
Gurden, H. 1019
Gwag, B. J. 83, 917

Haddad, G. G. 1231
Hagg, T. 1163
Hahn, M. K. 1183
Hake-Frendscho, M. 1291
Halonen, T. 473
Han, S.-H. 955
Hansson, O. 17
Harper, R. M. 579
Harris, K. H. 785
Harrison, P. T. 997
Hart, S. 1029
Hartman, B. K. 529
Hase, C. 497
Hata, Y. 697
Hayes, R. L. 405
He, K. 909
Heimer, L. 1097
Heimrich, B. 767
Henry, J. D. 59
Henze, D. A. 735
Herbert, J. 1313
Herman, M. M. 21
Herrera-Marschitz, M. 1133
Herrero, I. 71
Hersh, L. B. 21, 33
Hébert, C. 287
Hilbertson, A. 515
Holt, D. J. 21
Horrobin, D. F. 305
Houle, J. D. 929
Hökfelt, T. 1133
Hsieh, S.-T. 965
Hu, D. 587
Huang, I.-T. 965
Huang, P. L. 193
Huh, K. 83
Huston, J. P. 93
Hyde, T. M. 21

Ickes, B. 279
Ilundáin, A. A. 239
Islam, S. 1291

Jalč, P. 229
Janz, R. 1279
Jassar, B. S. 785
Jay, T. M. 1019
Jänig, W. 7
Jeub, M. 465
Jezova, D. 797
Jhamandas, J. H. 785
Jiricny, J. 1323
Johnson, J. 675
Jones, O. T. 1083
Jung, N. P. 83
Juráni, M. 323

Kaczmarek, L. 723
Kaminski Schierle, G. S. 17

Kampfl, A. W. 405
Kenneson, A. 185
Kessler, C. 395
Khan, S. Q. 1213
Kim, D. S. 975
Kim, E. Y. 83
Kiss, A. 797
Kitchigina, V. F. 453, 745
Kleinman, J. E. 21
Knyihár-Csillik, E. 269
Ko, H. W. 83
Koh, J.-Y. 917
Kosakai, A. 361
Kostyuk, E. P. 887
Kostyuk, P. G. 887
Košťál, L'. 323
Köhling, R. 1039, 1051
Kramer, B. M. R. 1163
Kruglikov, I. A. 887
Kubíková, L. 323
Kudina, T. A. 453, 745
Kumar, K. N. 1291
Kutyreva, E. V. 453

Lai, C. H. 831
Lalonde, R. 287
Lammers, C.-H. 629
Lange, E. 497
Lawrence, D. 571
Li, C. 117
Li, M. 1213
Lie, A. 465
Lin, W.-M. 965
Lioudyno, M. I. 1339
Loctin, F. 329
Lorent, K. 315
Lubec, G. 1133
Lukasiuk, K. 473
Lukáčová, N. 229
Lumb, B. M. 163
Lynch, M. A. 305

Ma, W. 251
MacIntyre Burnham, W. 1083
Machado, A. 239, 1071
Madl, J. 417
Magariños-Ascone, C. 879
Magazanik, L. G. 261
Mahy, N. 105
Maj, M. 1125
Makarov, F. N. 1339
Malvaldi, G. 937
Manahan-Vaughan, D. 71
Manaye, K. F. 33
Manvelyan, L. R. 845
Marsais, F. 151
Marsden, C. D. 339
Maršala, J. 229
Maršala, M. 229
Martin, D. S. D. 305
Marxen, M. 985
Matsuzaki, O. 131
Matthews, R. T. 775
Mazella, J. 1189
McAuley, J. H. 339
McGahon, B. M. 305
McMorran, P. D. 909
McNamara, J. O. 755
Melikian, H. E. 185
Memo, M. 1323
Menco, B. P. M. 131
Mendonça, A. 1083
Metzger, M. 497
Michaelis, E. K. 1291
Michaelis, M. 7
Miettinen, R. 735
Mills, J. 1333
Mizoguchi, H. 203
Moechars, D. 315
Mohammed, A. H. 279
Moore, A. N. 405
Morales, F. R. 11
Morgan, J. I. 955
Morsch, R. 389
Moskowitz, M. A. 1213
Mouradian, M. M. 629
Murphy, M. P. 909
Mühlethaler, M. 1

Nagase, H. 203
Nagata, E. 361
Nakai, M. 1153
Namura, S. 1213
Nankova, B. B. 803
Narita, M. 203
Nasoyan, A. M. 845
Naus, C. C. G. 637
Nelson, T. E. 431
Neppi-Modona, M. 209
Nestler, E. J. 629
Neto, F. L. 595, 607
Neubig, R. 395
Nogawa, S. 361
Nordberg, A. 685
Nouel, D. 1189
Nozdrachev, A. D. 1339
Nukada, H. 909
Nurminen, N. 735
Núñez, Á. 879

Oakman, S. A. 529
Ochedalski, T. 797
Oh, Y. K. 83
Oja, S. S. 949
Oji, D. E. 203
Okamura, H. 141
Okuno, E. 269
Ona, V. O. 1213
Oppenheimer, S. M. 351

Pal, R. 1291
Paradee, W. 185
Park, E. C. 83
Penttonen, M. 735
Petegnief, V. 105
Pettorossi, V. E. 549
Pham, T. M. 279
Piaggi, S. 937
Pitkänen, A. 473
Platt, D. 395
Poeggel, G. 497
Pogossian, V. I. 845
Pollack, A. E. 505
Popa-Wagner, A. 395
Porrino, L. J. 651
Prevot, V. 809
Privou, C. 93
Przewłocka, B. 1125
Przewłocki, R. 1125

Qin, Z.-H. 1153
Quartermain, D. 1245
Quinn, J. P. 997
Qü, M. 1039
Qü, M. S. 1051

Rajakumar, N. 637
Ralevic, V. 867
Rasmussen, D. L. 185
Reader, T. A. 287
Rector, D. M. 579
Reiner, P. B. 1333
Reuter, H. 1063
Revuelta, M. 1071
Reymann, K. G. 71
Richard, C. A. 579
Rizzini, C. 1323
Rizzonelli, P. 1323
Roman, F. S. 443
Ronnett, G. V. 131
Rosengarten, H. 1245
Rossi, F. 209
Rothe, F. 193
Rothwell, J. C. 339
Roulet, E. 329
Routbort, M. J. 755
Royer, S. M. 417
Rubinow, D. R. 251
Rushlow, W. J. 637

Sabban, E. L. 803
Sakamoto, H. 903
Sakuma, J. 1207
Samoilova, M. V. 261
Saper, C. B. 21
Saransaari, P. 949
Sarret, P. 1189
Sarter, M. 1029
Saruhashi, Y. 1207
Sato, H. 697
Saura, J. 105
Saviozzi, M. 937
Savonenko, A. 723
Savory, C. J. 323
Sánchez-Prieto, J. 71
Schadrack, J. 595, 607
Schmoll, H. 395
Semenenko, F. M. 163
Serafin, M. 1
Serneels, L. 315
Shammah-Lagnado, S. J. 1097
Sharonova, I. N. 261
Sherman, N. O. 1339
Shigeyoshi, Y. 141
Shin, H. C. 83
Shum, D. K. Y. 831
Shun, C.-T. 965
Sihver, W. 685
Sim-Selley, L. J. 651
Sinton, C. M. 21
Sirviö, J. 735
Smith, A. B. 891
Smith, M. S. 117
So, K.-F. 623
Song, R. 571
Sora, I. 203
Sors, P. 329
Soumireu-Mourat, B. 443
Söderström, S. 279
Spano, P. 1323
Speckmann, E.-J. 1039, 1051
Spike, R. C. 903
Spyer, K. M. 867
Stamatakis, A. 1261
Stamp, J. A. 1313
Stanley, E. F. 975
Stefano, G. B. 809
Stieg, P. E. 1213
Stinus, L. 705
Stone, E. A. 1245
Strasser, U. 917
Strata, P. 209
Strazielle, C. 287
Suganuma, C. 203
Sugimori, M. 1207
Suzuki, S. 361
Südhof, T. C. 1279
Svensson, A.-L. 685
Syriatowicz, J.-P. 587
Śmiałowska, M. 1125

Takekida, S. 141

Tanaka, K. 361
Tank, A. W. 803
Tao-Cheng, J.-H. 821
Tassin, J.-P. 1019
Tata, M. 217
Tesseur, I. 315
Thomas, T. 867
Tlemçani, O. 1261
Todd, A. J. 903
Toescu, E. C. 561
Tölle, T. R. 595, 607
Tracey, D. J. 587
Tramu, G. 809
Tranberg, A. 515
Truchet, B. 443
Tseng, L. F. 203
Tsumoto, T. 697
Turchan, J. 1125
Tuunanen, J. 473

Uberti, D. 1323
Ubink, R. 1133
Uhl, G. R. 203
Umans, L. 315
Ur, C. L. 431
Uylings, H. B. M. 47

van der Staay, F. J. 373
Van der Zee, C. E. E. M. 1163
Van Leuven, F. 315
Venero, J. L. 239, 1071
Vécsei, L. 269
Vibert, N. 1
Vidal, P.-P. 1
Vincent, J.-P. 1189
Vinogradova, O. S. 453, 745
Vizuete, M. L. 239
Vogel, C. 7
Voitenko, N. V. 887
Volknandt, W. 985
Vorobjev, V. S. 261
Výboh, P. 323

Wadia, J. 1083
Walker, J. S. 587
Walsh, J. H. 675
Wang, Y. 1153
Warren, S. T. 185
Weiner, I. 39
Werka, T. 723
Willoch, F. 595
Wolf, G. 193
Won, S. J. 83
Wong, H. 675
Wu, D. 33
Wu, V. 675

Xi, M. 11
Xia, Y. 1231
Xu, Y. 175

Yajima, S. 629
Yamuy, J. 11
Yan, L. 141
Yao, P. J. 389
Yarom, Y. 859
Yates, T. M. 505
Ye, J.-H. 929
Yeretsian, J. 1245
Yip, H. K. 623
Yip, J. 663
Young, W. 1207
Yuan, J. 1213

Zakarian, V. L. 845
Zenchenko, K. I. 745
Zhang, L. 251
Zhang, Y. 1245
Zhang, Z.-H. 351
Zhao, X. 405
Zhou, F. C. 821
Zieglgänsberger, W. 595, 607
Zielinski, K. 723
Zilles, K. 1039, 1051
Zimmermann, H. 985
Zimmermann, P. 93
Zweig, R. M. 33

KEY WORD INDEX

α_1 subunit, 975
β-amyloid toxicity, 917
κ receptor, 465
μ-opioid receptors, 203

2-deoxyglucose, 595, 607
4-CPG, 71
5-HT_{1A} receptor, 1253
7-chlorokynurenic acid, 1199
192 IgG–saporin, 1029

AAV, 997
accumbens, 629
acetylcholine, 1029
ACPD, 71
ACTH, 797
active sleep, 11
activity, 47
ADA, 71
adamantane derivatives, 261
adaptation, 1313
adrenals, 803
adult rat, 1207
afferent impulse activity, 1339
afterdischarges, 735
ageing, 305, 395
alcohol, 431
allopurinol, 909
Alzheimer's disease, 389, 685, 1333
amacrine cells, 675
AMPA, 1051
amygdala, 705, 1071, 1097, 1125
animal model, 39
anterograde and retrograde tracing, 1097
anticipatory, 339
antidromic activation, 845
antigen challenge, 1339
antinociception, 203
antioxidant, 937
anxiety, 723, 1029
AP-1 complexes, 405
AP180, 389
apnea, 11
apolipoprotein E, 315
apomorphine, 39
apoptosis, 17, 473, 561, 571, 917, 1071, 1153, 1213
APP, 1333
aquaporin, 239
arachidonic acid, 305
arcaine, 1199
arthritic pain, 607
ascorbic acid, 937
associative learning, 443
astrocytes, 1189
astroglia, 105
ATP, 867
attention, 47
autonomic nervous system, 579
autotomy, 217
axonal regeneration, 263
axon sprouting, 209
axon terminals, 417
axotomy, 7, 929

basal forebrain, 785, 1029
basal ganglia, 21, 515, 1261
Bax, 473
Bcl-2, 473
BDNF, 929
bed nucleus of the stria terminalis, 175
behavioral activity, 1245
behavioral sensitization, 705
behaviour, 279, 663
bicuculline, 1207
bidirectional response sensitivity, 831
bipolar cells, 675
blockade, 453
blood pressure, 579
brain, 239, 251, 269, 315, 607, 663
brain alpha 1-adrenergic receptor, 1245
brain maturation, 497
brainstem, 11
brainstem catecholamine cells, 175
bulbectomy, 131
BW619C89, 1219

c-Fos, 405, 637, 1183
Ca^{2+} channels, 561
caffeine, 887
calcineurin, 405
calcium, 17, 105
calcium channel, 975, 1083
calcium channels, 891
calcium currents, 785
cardiac, 1029
cardiovascular regulation, 351
CArG-binding protein A, 637
carnosine, 571
caspase, 405
caspase inhibition, 1213
caspase-1, 1213
cat area 17, 697
catalytic NOS activity, 229
catecholamines, 323, 797
caudal and rostral nucleus accumbens, 93
Cdk5 activator, 955
cell body size, 1163
cell counting, 33
cell culture, 1189
cell death, 83, 571
cells' abnormal spontaneous activity, 217
central amygdala, 175
central nervous system, 239
cerebellar granule cells, 571, 1323
cerebellar granule neurons, 561
cerebellum, 287, 859, 955
cerebral ischemia, 361
cerebral metabolic activity, 1261
cFos, 117
CGP12177, 287
chicken brain, 323
cholecystokinin, 1133
choline acetyltransferase immunohistochemistry, 33
cholinergic, 21, 529
chronic Fos-related antigens, 515
chronic hypoxia, 1231
chronic pain, 595
circadian rhythm, 141
clathrin assembly protein, 389
CNTF, 929
cognitive activity, 1005
collaterals, 529
conditional fear, 185
confocal microscopy, 903
cortex, 395
corticogenesis, 955
corticosterone, 797
corticotropin-releasing factor, 175
corticotropin-releasing hormone, 797
CRF, 1125
current clamp, 775
current-source-density, 1039
cyclic AMP, 361
cyclic AMP-dependent protein kinase, 361
cyclic nucleotide-gated channel, 131
cyclo-oxygenase, 587

D1 dopamine, 505
D2 dopamine, 505
DARPP-32, 1133
DBH, 803
deafferentation pain, 217
defensive response, 1029
dehydroascorbate, 937
dehydroascorbate reductase, 937
dentate gyrus, 305, 443
descending pathways, 163
development, 131, 949, 1231
DHPG, 71
diabetes, 887
diagonal band, 775
distribution, 239
DNA binding protein, 637
DNA damage, 1323
DNA fragmentation, 1213
docosahexanoic acid, 305
dopamine, 39, 1063, 1133
dopamine denervation, 515
dopamine depletion, 1019
dopamine receptors, 323
dopamine replacement, 515
dopaminergic lesion, 1125
dorsal column, 1207
dorsal horn neurons, 887
dorsal root entry zone lesions, 217
dynorphin, 465

electron microscopy, 193
electrophysiology, 431
emotional experience, 497
emotional memory, 723
endocytosis, 329, 985
endomorphins, 203
enriched environment, 279
epilepsy, 473, 1039, 1051
estrous cycle, 809
excitotoxicity, 949, 1323
excitotoxins, 269
exocytosis, 985, 1063
experimental monoarthritis, 595, 607
extended amygdala, 1097
extracellular recordings, 351
extrasynaptic transmission, 821
eye blinks, 879

facial nucleus, 879
factor analysis, 723
fascia dentata, 767
fear, 723
FG 7142, 1029
FGF2, 929
field potential, 431, 549
flow cytometry, 571
focal ischemia, 361
food hoarding, 47
food restriction, 323
forebrain areas, 1261
Fos, 163, 505
Fos immunohistochemistry, 663
fragile X syndrome, 185
frog, 845
fundus striati, 1097
Fura-2/AM, 887

G-protein, 651
GABA, 1133, 1207
$GABA_A$, 1207
$GABA_A$ receptor, 1051
GABAergic synapse, 1173
gamma, 1005
ganglionic PTP, 897
GAP-43, 623
GDNF, 629
gender, 251
gene expression, 395, 997
genetics, 185
glia, 1253
glial fibrillary acidic protein, 909, 1189, 1253
gliosis, 1189
globus pallidus, 105
glutamate release, 305
glutamate, 417, 705
glutathione, 937
glycine, 11
glycoprotein, 1279
GnRH, 809
granule cell, 985
grooming, 723
guinea-pig, 663
guinea-pigs, 775

heart rate, 579, 1029
hemilabyrinthectomy, 831
high-frequency oscillations, 1005
high-frequency stimulation, 549
hippocampal neurons, 315
hippocampal slices, 949
hippocampus, 59, 71, 83, 395, 431, 629, 735, 745, 955, 1019, 1063, 1071, 1083
histamine, 93
horizontal brainstem slice, 1173
horizontal cells, 675
human, 21
human neocortex, 1051
human slice, 1039
human temporal cortex, 685
human temporal lobe epilepsy, 465
hyperalgesia, 587
hypoglycemia, 417
hypothalamic–pituitary–adrenal axis, 175
hypothalamus, 151, 163, 809
hypoxia, 417

idazoxan, 287
imaging, 1083
immediate early gene, 59, 1313
immediate-early genes, 515, 637
immunocytochemistry, 193, 269, 821, 903
immunohistochemistry, 389, 1125
indomethacin, 587
inhibition, 735
in situ hybridization, 141, 239, 629, 1125, 1189
instrumental conditioning, 723
insular cortex, 351
interleukin-1β, 175
interleukin-1β-converting enzyme, 1213
interneuron, 21
intertrial reaction, 723
intracellular Ca^{2+}, 887
intracellular recording, 775
intracellular signaling, 1163
intracranial self-stimulation, 93
intramembrane particles, 329
in vitro, 879
in vivo, 71
ionotropic glutamate receptor, 1153
iontophoresis of CNQX, 697
ischaemia, 1219
ischemia, 949
kainate, 83, 473, 571, 1051, 1071, 1323
kainic acid, 755
$kappa_1$ opioid receptor, 651
KCl, 887
keratinocytes, 965
kindling, 1083
knockout mice, 203
kynurenine aminotransferase-I, 269

L-arginine, 897
L-NAME, 897
L-NOARG, 897

lactation, 117, 151
laminae and segments of the spinal cord, 229
laminar distribution, 1039
lamotrigine, 1219
latent inhibition, 39
laterodorsal tegmental nucleus, 33
laterodorsal tegmental, 529
levocabastine, 775
limbic system, 497
lipoprotein receptor-related protein, 315
locomotor activity, 39, 59
locus coeruleus, 1183
long-term potentiation, 185, 305, 549
low-voltage-activated, 975
LTP, 71

MAPK, 1333
MCPG, 71
medial prefrontal cortex, 39, 705, 1029
medial septal area, 745
medial septum, 775, 1071, 1163
medial vestibular nuclei, 549
median eminence, 809
median raphe nucleus, 453, 745
mediatophore, 329
medulla, 163
meloxicam, 587
metabolic activity, 607
metabolism, 417
metabotropic glutamate receptor, 549, 1153
metabotropic, 71
mGlu, 71
microglia, 105
microtubule-associated protein 1B, 395
middle-aged rats, 279
migration, 955
MK-801, 83
morphometric changes, 209
Morris water maze, 373
mossy fibers, 755
motoneurons, 879
mouse, 185
mRNA, 1231
MSOPPE, 71
mu opioid receptor, 651
mutant mouse, 193

N-type, 1083
Na^+ channel, 1219
NADPH-diaphorase histochemistry, 193
NADPH-diaphorase, 229, 529
native ionotropic glutamate receptors, 261
nerve degeneration, 965
nerve growth factor, 1163
neuroblastoma N18TG-2 cells, 329
neurodegeneration, 1153
neuroimmune interaction, 1339
neurokinin 1 receptor, 903
neuron, 997
neuron–target interaction, 209
neuronal activity, 453
neuronal NOS, 229
neurons, 917
neuropathic, 7
neuropeptide receptors, 675
neuropeptide Y, 1133
neuroprotection, 937, 1323
neurotransmitter release, 329, 891
NF-κB, 1153
NGF, 279, 997
nicotinic receptor binding, 685
nisoxetine, 287
nitric oxide, 1133
nitrotyrosine, 909
NK1 receptor, 663, 1183
NMDA, 83, 571, 1051, 1333
non-competitive antagonism, 261
non-NMDA receptor, 697
NPY, 1125
nuclear factor kappa B, 83
nucleus accumbens, 59

obstructive, 11
ocular pursuit, 339
off-vertical axis rotation, 831
olfaction, 131
olfactory neuron, 131
olivocerebellar pathway, 209
opioid, 465
optic nerve, 1219
optic nerve transection, 623
optical imaging, 579, 859
organotypic, 755
oscillation, 339, 735
otolith, 831
oxidative damage, 909
oxidative stress, 17
oxygen-glucose deprivation, 917
oxytocin, 151

P2 receptors, 867
$p38^{MAPK}$, 917
p75 receptor, 279
pain, 7, 351, 903
pair mismatch, 1323
paired-pulse facilitation, 431
paired-pulse inhibition, 431
paresthesia, 7
Parkinson's disease, 17
PDC, 71
pedunculopontine nucleus, 33
pedunculopontine, 529
periaqueductal grey, 163
peripheral nerve ischaemia-reperfusion injury, 909
peripheral nerve transplant, 623
peripheral neuropathy, 587
*Per*1, 141
*Per*2, 141
phosphatases, 405
photoreceptors, 675
PKA, 361, 1063
place-preference, 93
plasticity, 809
platelet-activating factor, 549
polysynaptic potentiation, 443
pons/medulla, 203
postural control, 1
potassium currents, 785
potentiation, 1173
prazosin, 287
precocious rodents, 497
prefrontal cortex, 47, 1019
preganglionic sympathetic nerves, 891
prelimbic, 1019
preoptic area, 1261
preprotachykinin, 997
prepulse inhibition, 39
priming, 505
proliferation, 965
protein, 1231
protein carbonyls, 909
protein gene product 9.5, 965
protein kinase C, 917
Purkinje cells, 287

quantitative autoradiography, 685
quinpirole, 505

rabbit, 229
randomized double pulse, 1207
raphe nucleus, 821
rat, 39, 59, 141, 239, 269, 373, 395, 785
rat brain, 117
rat strains, 47

rats, 17, 93, 879
receptor, 1163
receptor and enzyme autoradiography, 105
receptor-associated protein, 315
receptors, 251
recovery of function, 373
recurrent sprouting, 465
recycling, 985
redundancy, 955
regeneration, 7
release, 417
release mechanisms, 949
repeated stress, 1313
reproductive behavior, 1261
respiration, 11
response inhibition, 47
reward, 93
rhythm, 339
rostal nucleus of the solitary tract, 1173
rostral ventrolateral medulla, 867

saccade, 339
salt loading, 151
sAPP, 1333
saxitoxin, 1231
schizophrenia, 21, 33, 39, 59
second messenger, 131
seizure-regulation, 629
seizures, 755
sensorimotor functioning, 373
sensory responses, 745
septohippocampal, 1163
septum, 453
serotonin, 251, 1253
serum response element, 637
shock, 579
signal transduction, 361
skin innervation, 965
sleep, 1005
slice co-cultures, 767
slice cultures, 755
small intestine, 1339
SNARE, 985
sodium azide, 269
sodium channels, 1231
sodium nitroprusside, 897
somatostatin, 903
somatostatin-NPY interneurons, 515
somatotopic organization, 845
spatial learning, 185
specific serotonin reuptake inhibitor, 821
spermine, 1199
spinal cord, 595
spinal cord injury, 929
spine formation, 767
spontaneous potentials, 1039
sprouting, 623, 755
SR 140333, 663
stimulation, 453
strain, 735
streptozotocin, 887
stress, 797, 803, 1183
striatum, 21, 505, 1097
striatum and development, 637
subdural haematoma, 373
subiculum, 735
substance P, 529, 1183
suckling stimulus, 117
Sudden Infant Death Syndrome, 579
suprachiasmatic nucleus, 141, 1253
SV2, 1279
SVOP, 1279
sympathetic, 897
synaptic activity, 767
synaptic cleft, 821
synaptic plasticity, 1019
synaptic vesicle, 1279
synaptosome, 71
Syrian hamster, 1253

T type, 975
tachykinin, 663
tanycytes, 809
taste, 1173
taurine release, 949
terazosin, 1245
testosterone, 251
TGF-β, 629
TH, 803
thalamus, 529
theta rhythm, 453, 745
time discrimination, 723
transcription, 803
transcriptional regulator, 637
transgenic mice, 315
transplantation, 929
transporter, 1279
traumatic brain injury, 373
TRE sequence, 405
trkA receptor, 279
trophic interactions, 209
TUNEL, 473, 1213
TUNEL histochemistry, 1071
tyrosine hydroxylase, 151, 797

unilateral labyrinthectomy, 1
unmyelinated axons, 965

vasopressin, 151
ventral striatum, 1097
ventral tegmental area, 705, 1019
vesicle protein, 985
vesicular acetylcholine transport sites, 685
vestibular, 1
vestibular nerve, 845
vestibular nuclear neuron, 831
vestibular nuclei, 845
vestibulospinal neurons, 845
visual response, 697
visual system, 675
vitreous, 623
vocal control regions, 1261
voltage-dependent Ca^{2+} current, 465
voltage-dependent calcium channels, 17
voltage-sensitive dyes, 859
volume transmission, 821

white matter, 1219
whole-cell patch-clamp, 785
whole-cell recording, 1173

zif 268, 637

[^{35}S]GTPγS autoradiography, 651
[^{35}S]GTPγS binding, 203
[Sar^{9},$Met(O_2)^{11}$]substance P, 663

INTERNATIONAL BRAIN RESEARCH ORGANIZATION

World Federation of Neuroscientists

Incorporated as an independent international organization

Ottawa 1961

T. N. Wiesel (U.S.A.)	*President*
M. Ito (Japan)	*Honorary President*
C. Belmonte (Spain)	*Secretary-General*
J. S. Lund (U.K.)	*Executive Secretary*
P. Strata (Italy)	*Treasurer*
J. S. Lund (U.K.)	*Director, Workshop and Symposia Programme*
J. S. Lund (U.K.)	*Chair, Publications Committee*
S. H. Barondes (U.S.A.)	*Director, Fellowships Programme*
C. Blakemore (U.K.)	*Editor in Chief, IBRO News, IBRO website*

Secretary-General

Prof. C. Belmonte
Inst. de Neurociencias
Univ. Miguel Hernandez
Campus de San Juan
03550 San Juan (Alicante)
Spain

Executive Secretary

Prof. J. S. Lund
Dept of Visual Science
Inst. of Ophthalmology
Univ. College London
11–43 Bath Street
London EC1V 9EL
U.K.

IBRO Secretariat
Executive Director

Ms Olga Popoff
51, Bd. de Montmorency
75016 Paris
France

IBRO NEUROSCIENCE CALENDAR

The International Brain Research Organization publishes a calendar of events in the neurosciences. It is hoped that the calendar, which is published in IBRO News and on the website, will help scientists in the field to plan ahead for the meetings they wish to attend. The aim of the calendar is to contain as many announcements as possible of forthcoming scientific meetings in the neurosciences throughout the whole world.

IBRO invites organizers of meetings to send information on their meetings, together with a statement as to whether the date is definite or provisional, to: Office of *IBRO News*, University Laboratory of Physiology, Parks Road, Oxford OX1 3PT, U.K. The IBRO Website has the following address: http://www.ibro.org/ (Webmaster: Prof. C. Blakemore).

Printed in Great Britain by Henry Ling Ltd., at the Dorset Press, Dorchester, Dorset